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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/746,933	12/22/2000	Charles L. Bruzzone	55376USA4A	3760

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EXAMINER	
SHAFER, RICKY D	
ART UNIT	PAPER NUMBER
2872	

DATE MAILED: 10/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/746,933	BRUZZONE ET AL
	Examiner	Group Art Unit
	R.D. SHAFER	2872

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

☒ Responsive to communication(s) filed on 7/23/02.

☐ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

☒ Claim(s) 1-19 AND 22-25 is/are pending in the application.

Of the above claim(s) 3, 8, 14-19 AND 22-25 is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1, 2, 4-7 AND 9-13 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claim(s) _____ are subject to restriction or election requirement

Application Papers

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner

☒ The specification is objected to by the Examiner.

☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).

☐ All ☐ Some* ☐ None of the:

☐ Certified copies of the priority documents have been received.

☐ Certified copies of the priority documents have been received in Application No. _____.

☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____.

Attachment(s)

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 13 AND 17

☐ Interview Summary, PTO-413

☒ Notice of Reference(s) Cited, PTO-892

☐ Notice of Informal Patent Application, PTO-152

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Other _____

Office Action Summary

1. Applicant's election with traverse of group I (claims 1-12 and 25), species A(2), the optical system being a rear projection system, species B(1), the first polarization direction being a s-polarization direction, and species C(1), the beam splitter being a 3M ABF multilayer film, in Paper No. 16 is acknowledged. The traversal is on the ground(s) that the species requirement is improper. This is not found persuasive because the species requirement set forth in Paper No. 15 was never intended by the examiner for applicant to elect one of the categories of A, B or C , as applicant's asserts, but was clearly intended for applicant to elect one of the subcategories from each of the categories A, B and C.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 3, 8, 14-19 and 22-25 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention and/or species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 16.

3. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 6, line 2, the use of the language "each image" is vague, indefinite and/or confusing. Moreover, the above mentioned language lacks proper antecedent basis.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claim 13 is rejected under 35 U.S.C. 102(b) as being anticipated by Gagnon et al ('028).

Gagnon et al discloses a projection system comprising a polarizing beam splitter [(22) or (24)] and a color separation prism [(24), (28) or (32)], wherein the axes of the polarizing beam splitter and the color separation prism are perpendicular. Note the single drawing figure.

6. Claim 13 is rejected under 35 U.S.C. 102(b) as being anticipated by Nagashima ('294).

Nagashima discloses a projection system comprising an illumination system (22,23), a polarizing beam splitter (21), a color separation and recombination prism (11), a plurality of polarization modulating imagers (12,13,14) and a projection lens (24), wherein the axes of the polarizing beam splitter and the color separation prism are perpendicular. Note fig.1.

7. Claim 13 is rejected under 35 U.S.C. 102(e) as being anticipated by Bryars ('815).

Bryars discloses a projection system comprising an illumination system (10), a polarizing beam splitter (20), a color separation and recombination prism (30), a plurality of polarization modulating imagers (90,110,130) and a projection lens (140), wherein the axes of the polarizing beam splitter and the color separation prism are perpendicular. Note figures 1, 6 and 17 and the associated description thereof.

8. Claim 13 is rejected under 35 U.S.C. 102(e) as being anticipated by Bryars et al ('498).

Bryars et al discloses a projection system comprising an illumination system (102,105), a polarizing beam splitter (106), a color separation and recombination prism (10), a plurality of polarization modulating imagers (110,112,114) and a projection lens (118), wherein the axes of the polarizing beam splitter and the color separation prism are perpendicular. Note figures 2 and 4-6 and the associated description thereof.

9. Claim 13 is rejected under 35 U.S.C. 102(e) as being anticipated by Kuijper ('762).

Kuijper discloses a projection system comprising an illumination system (5), a pre-polarizing light (7), a polarizing beam splitter (9), a color separation and recombination prism (17), a plurality of polarization modulating imagers (11,13,15) and a projection lens (29), wherein the axes of the polarizing beam splitter and the color separation prism are perpendicular. Note figures 1 and 3 and the associated description thereof.

10. Claim 13 is rejected under 35 U.S.C. 102(e) as being anticipated by Knox ('626).

Knox discloses a projection system comprising an illumination system (210,270), a polarizing beam splitter (220), a color separation and recombination prism (330), a plurality of

polarization modulating imagers (341,342,343) and a projection lens (260), wherein the axes of the polarizing beam splitter and the color separation prism are perpendicular. Note figures 13 and 17 and the associated description thereof.

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 1, 2, 4-7 and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagashima ('294) in view of Duwaer et al ('248).

Nagashima discloses all of the subject matter claimed, note the above explanation, except for explicitly stating that the illumination system has a f/# less than or equal to 2.5.

Duwaer et al teaches it is well known to use an illumination system having a f/# less than or equal to 2.5 in the same field of endeavor for the purpose of producing a large cone of light.

Therefore, it would have been obvious and/or within the level of one of ordinary skill in the art at the time the invention was made to modify the illumination system of Nagashima to include a typical illumination system having a f/# less than or equal to 2.5, as taught by Duwaer et al in order to increase the brightness efficiency without sacrificing contrast or desirable brightness versus contrast ratio.

As to the limitations of claim 4, it is well known to employ a prepolarizer or clean-up polarizer before a polarizing beam splitter in the same field of endeavor for the purpose of enhancing the contrast ratio. Therefore, it would have been obvious and/or within the level of one of ordinary skill in the art at the time the invention was made to modify the illumination system of Nagashima to include a prepolarizer or clean-up polarizer before the polarizing beam splitter as is commonly used and employed in the art in order to enhance the contrast ratio.

As to the limitations of claim 11, it is well known to employ APF multilayer polarizing beam splitters in the same field of endeavor for the purpose of enhancing the acceptance angle and/or the contrast ratio. Therefore, it would have been obvious and/or within the level of one of ordinary skill in the art at the time the invention was made to modify the polarizing beam splitter of Nagashima to include a APF multilayer polarizing beam splitter as is commonly used and employed in the art in order to enhance the acceptance angle and/or the contrast ratio.

As to the limitations of claim 12, it is well known to employ LCOS imagers in the same field of endeavor for the purpose of reducing unwanted depolarization of light which thereby enhances the contrast ratio. Therefore, it would have been obvious and/or within the level of one of ordinary skill in the art at the time the invention was made to modify the imagers of Nagashima to include a LCOS imagers as is commonly used and employed in the art in order to reduce unwanted depolarization of light which thereby enhances the contrast ratio.

13. Claims 1, 2, 4-7 and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bryars ('815) or Bryars et al ('498) in view of Duwaer et al ('248).

Bryars and Bryars et al each disclose all of the subject matter claimed, note the above explanation, except for explicitly stating that the illumination system has a f/# less than or equal to 2.5.

Duwaer et al teaches it is well known to use an illumination system having a f/# less than or equal to 2.5 in the same field of endeavor for the purpose of producing a large cone of light.

Therefore, it would have been obvious and/or within the level of one of ordinary skill in the art at the time the invention was made to modify the illumination system of Bryars or Bryars et al to include a typical illumination system having a f/# less than or equal to 2.5, as taught by Duwaer et al in order to increase the brightness efficiency without sacrificing contrast or desirable brightness versus contrast ratio.

As to the limitations of claim 4, it is well known to employ a prepolarizer or clean-up polarizer before a polarizing beam splitter in the same field of endeavor for the purpose of enhancing the contrast ratio. Therefore, it would have been obvious and/or within the level of one of ordinary skill in the art at the time the invention was made to modify the illumination system of Bryars or Bryars et al to include a prepolarizer or clean-up polarizer before the polarizing beam splitter as is commonly used and employed in the art in order to enhance the contrast ratio.

As to the limitations of claim 11, it is well known to employ APF multilayer polarizing beam splitters in the same field of endeavor for the purpose of enhancing the acceptance angle and/or the contrast ratio. Therefore, it would have been obvious and/or within the level of one of ordinary skill in the art at the time the invention was made to modify the polarizing beam splitter

of Bryars or Bryars et al to include a APF multilayer polarizing beam splitter as is commonly used and employed in the art in order to enhance the acceptance angle and/or the contrast ratio.

As to the limitations of claim 12, it is well known to employ LCOS imagers in the same field of endeavor for the purpose of reducing unwanted depolarization of light which thereby enhances the contrast ratio. Therefore, it would have been obvious and/or within the level of one of ordinary skill in the art at the time the invention was made to modify the imagers of Bryars or Bryars et al to include a LCOS imagers as is commonly used and employed in the art in order to reduce unwanted depolarization of light which thereby enhances the contrast ratio.

14. Claims 1, 2, 4-7 and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuijper ('762) in view of Duwaer et al ('248).

Kuijper discloses all of the subject matter claimed, note the above explanation, except for explicitly stating that the illumination system has a f/# less than or equal to 2.5.

Duwaer teaches it is well known to use an illumination system having a f/# less than or equal to 2.5 in the same field of endeavor for the purpose of producing a large cone of light.

Therefore, it would have been obvious and/or within the level of one of ordinary skill in the art at the time the invention was made to modify the illumination system of Kuijper to include a typical illumination system having a f/# less than or equal to 2.5, as taught by Duwaer et al in order to increase the brightness efficiency without sacrificing contrast or desirable brightness versus contrast ratio.

As to the limitations of claim 11, it is well known to employ APF multilayer polarizing beam splitters in the same field of endeavor for the purpose of enhancing the acceptance angle and/or the contrast ratio. Therefore, it would have been obvious and/or within the level of one of ordinary skill in the art at the time the invention was made to modify the polarizing beam splitter of Kuijper to include a APF multilayer polarizing beam splitter as is commonly used and employed in the art in order to enhance the acceptance angle and/or the contrast ratio.

As to the limitations of claim 12, it is well known to employ LCOS imagers in the same field of endeavor for the purpose of reducing unwanted depolarization of light which thereby enhances the contrast ratio. Therefore, it would have been obvious and/or within the level of one of ordinary skill in the art at the time the invention was made to modify the imagers of Kuijper to include a LCOS imagers as is commonly used and employed in the art in order to reduce unwanted depolarization of light which thereby enhances the contrast ratio.

15. Claims 1, 2, 4-7 and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knox ('626) in view of Duwaer et al ('248).

Knox discloses all of the subject matter claimed, note the above explanation, except for explicitly stating that the illumination system has a f/# less than or equal to 2.5.

Duwaer teaches it is well known to use an illumination system having a f/# less than or equal to 2.5 in the same field of endeavor for the purpose of producing a large cone of light.

Therefore, it would have been obvious and/or within the level of one of ordinary skill in the art at the time the invention was made to modify the illumination system of Knox to include a

typical illumination system having a f/# less than or equal to 2.5, as taught by Duwaer et al in order to increase the brightness efficiency without sacrificing contrast or desirable brightness versus contrast ratio.

As to the limitations of claim 4, it is well known to employ a prepolarizer or clean-up polarizer before a polarizing beam splitter in the same field of endeavor for the purpose of enhancing the contrast ratio. Therefore, it would have been obvious and/or within the level of one of ordinary skill in the art at the time the invention was made to modify the illumination system of Knox to include a prepolarizer or clean-up polarizer before the polarizing beam splitter as is commonly used and employed in the art in order to enhance the contrast ratio.

As to the limitations of claim 12, it is well known to employ LCOS imagers in the same field of endeavor for the purpose of reducing unwanted depolarization of light which thereby enhances the contrast ratio. Therefore, it would have been obvious and/or within the level of one of ordinary skill in the art at the time the invention was made to modify the imagers of Knox as is commonly used and employed in the art in order to reduce unwanted depolarization of light which thereby enhances the contrast ratio.

16. The disclosure is objected to because of the following informalities: on page 1 of the specification, applicants erroneously identified the filing date of Application Serial No. 09/312,917 as May 15, 1999 and the filing date of Provisional Application No. 60/178,973 as January 26, 2000. The correct filing date of Application Serial No. 09/312,917 is --May 17, 1999-- and the correct filing date of Provisional Application No. 60/178,973 is --January 25, 2000--.

Appropriate correction is required.

17. The oath or declaration filed on 4/27/01 is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because applicants erroneously identified the filing date of Application Serial No. 09/312,917 as "May 15, 1999" and the filing date of Provisional Application No. 60/178,973 as "January 26, 2000". The correct filing date of Application Serial No. 09/312,917 is --May 17, 1999-- and the correct filing date of Provisional Application No. 60/178,973 is --January 25, 2000--.

18. Any inquiry concerning this communication should be directed to R.D. Shafer at telephone number (703) 308- 4813.

RDS

October 18, 2002

RICKY D. SHAFER
PATENT EXAMINER
ART UNIT 2872